

1. Record Nr.	UNISA996418193503316
Autore	Camiola Vito Dario
Titolo	Charge Transport in Low Dimensional Semiconductor Structures [[electronic resource]] : The Maximum Entropy Approach // by Vito Dario Camiola, Giovanni Mascali, Vittorio Romano
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-35993-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XVI, 337 p. 83 illus., 23 illus. in color.)
Collana	The European Consortium for Mathematics in Industry ; ; 31
Disciplina	621.3815284
Soggetti	Mathematical physics Applied mathematics Engineering mathematics Nanotechnology Mathematical Physics Theoretical, Mathematical and Computational Physics Mathematical and Computational Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Band Structure and Boltzmann Equation -- Maximum Entropy Principle -- Application of MEP to Charge Transport in Semiconductors -- Application of MEP to Silicon -- Some Formal Properties of the Hydrodynamical Model -- Quantum Corrections to the Semiclassical Models -- Mathematical Models for the Double-Gate MOSFET -- Numerical Method and Simulations -- Application of MEP to Charge Transport in Graphene.
Sommario/riassunto	This book offers, from both a theoretical and a computational perspective, an analysis of macroscopic mathematical models for description of charge transport in electronic devices, in particular in the presence of confining effects, such as in the double gate MOSFET. The models are derived from the semiclassical Boltzmann equation by means of the moment method and are closed by resorting to the maximum entropy principle. In the case of confinement, electrons are treated as waves in the confining direction by solving a one-

dimensional Schrödinger equation obtaining subbands, while the longitudinal transport of subband electrons is described semiclassically. Limiting energy-transport and drift-diffusion models are also obtained by using suitable scaling procedures. An entire chapter in the book is dedicated to a promising new material like graphene. The models appear to be sound and sufficiently accurate for systematic use in computer-aided design simulators for complex electron devices. The book is addressed to applied mathematicians, physicists, and electronic engineers. It is written for graduate or PhD readers but the opening chapter contains a modicum of semiconductor physics, making it self-consistent and useful also for undergraduate students.

2. Record Nr.	UNIORUON00342381
Autore	GUILLEMIN, Henri
Titolo	La liaison Musset-Sand / Henri Guillemin
Pubbl/distr/stampa	Paris, : Gallimard, c1972
Descrizione fisica	246 p. ; 21 cm.
Disciplina	844
Soggetti	MUSSET ALFRED DE
Lingua di pubblicazione	Francese
Formato	Materiale a stampa
Livello bibliografico	Monografia
